

IN THE CLAIMS:

1. (Canceled).

2. (Currently Amended) A signal processing apparatus comprising:

a variable gain amplifier for automatically adjusting a signal read from a recording medium so that the signal has a desired amplitude;

a filter circuit for removing a signal in a specific band, said filter circuit ~~being~~ connected to the variable gain amplifier;

an A/D converter for converting an analog signal into a digital signal, said converter ~~being~~ connected to the filter circuit;

an automatic gain controller ~~being~~ connected to the A/D converter;

a waveform equalizer for performing waveform equalization, said equalizer ~~being~~ connected to the A/D converter;

a control circuit for performing baseline control for the output of the waveform equalizer and the output of the A/D converter on the basis of the output of the waveform equalizer;

an adaptive transversal filter for amplifying a signal in a specific band as well as performing waveform equalization for a reproduction signal, said filter ~~being~~ connected to the output of the A/D converter that is baseline-controlled;

a detection circuit for performing error detection and correction using ~~a~~ an LMS (Least Mean Square) algorithm, said detection circuit ~~being~~ connected to the adaptive transversal filter;

a decoder for performing maximum likelihood decoding, said decoder ~~being~~ connected to the adaptive transversal filter; and

a timing recovery logic circuit for extracting a reproduction clock, said logic circuit ~~being~~ connected to the control circuit.

3. (Currently Amended) A signal processing apparatus comprising:

a variable gain amplifier for automatically adjusting a signal read from a recording

medium so that the signal has a desired amplitude;

an A/D converter for converting an analog signal into a digital signal, said converter being directly connected to the variable gain amplifier;

an automatic gain controller ~~being~~ connected to the A/D converter;

a waveform equalizer for performing waveform equalization, said equalizer ~~being~~ connected to the A/D converter;

a control circuit for performing baseline control for the output of the waveform equalizer and the output of the A/D converter on the basis of the output of the waveform equalizer;

an adaptive transversal filter for amplifying a signal in a specific band as well as performing waveform equalization for a reproduction signal, said filter ~~being~~ connected to the output of the A/D converter that is baseline-controlled;

a detection circuit for performing error detection and correction using a LMS (Least Mean Square) algorithm, said detection circuit ~~being~~ connected to the adaptive transversal filter;

a decoder for performing maximum likelihood decoding, said decoder ~~being~~ connected to the adaptive transversal filter; and

a timing recovery logic circuit for extracting a reproduction clock, said logic circuit ~~being~~ connected to the control circuit.

4. (Previously Presented) A signal processing apparatus as defined in Claim 2 wherein said filter circuit is a low-pass filter which is constituted by an order equal to or lower than third order.

5 -8. (Canceled).

9. (Currently Amended) A signal processing apparatus as defined in Claim 3 further including

an adjustment circuit for calculating a jitter value on the basis of an output of the waveform equalizer, which output is corrected by the baseline control circuit, and for automatically adjusting the degree of amplification of the waveform equalizer on the basis of the calculated jitter value.

10. (Previously Presented) A signal processing apparatus as defined in Claim 2 wherein
said recording medium is an optical disc medium.

11. (Previously Presented) A signal processing apparatus as defined in Claim 2 wherein
said recording medium is a magnetic disc medium.

12. (Previously Presented) A signal processing apparatus as defined in Claim 2 wherein
said recording medium is a semiconductor memory.

13 - 19. (Canceled).

20. (Previously Presented) A signal processing apparatus as defined in Claim 3 wherein
said recording medium is an optical disc medium.

21. (Previously Presented) A signal processing apparatus as defined in Claim 3 wherein
said recording medium is a magnetic disc medium.

22. (Previously Presented) A signal processing apparatus as defined in Claim 3 wherein
said recording medium is a semiconductor memory.